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Thusitha Jayawardena

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/782,512	Applicant(s) JAYAWARDENA ET AL.	
	Examiner JOE CHACKO	Art Unit 2456	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-8 and 10-19 have been examined and are pending.

Claim Objections

2. Claims 1-14 are objected to because of the following informalities:
"adapted to" should be replaced with a gerund in order to make the limitation more positive for examination. Appropriate correction is required.

Double Patenting

3. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

4. **Claims 1, 8 and 15** are rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1 of prior U.S. Patent No. 7,444,417 B2 to Jayawardena et al . This is a double patenting rejection.

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

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unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. **Claims 1, 2, 3, 8, 15** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1, 3, 12 and 14** of copending Application No. 12/284254 to Jayawardena et al. Although the conflicting claims are not identical, they are not patentably distinct from each other as described below.

As to **claim 1**, Jayawardena discloses an internet service provider (ISP) network comprising:

a plurality of routers connected to provide an internet protocol network (IP) (pg.2, claim 1, “a plurality of edge routers”);

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a first router, of said plurality of routers (pg.2, claim 1, "...plurality of core routers adapted to allow communication"..) in communication with an internet application, said internet application having a first IP address (pg.2, claim 1, "...VPN application having a first IP address") ;

a black-hole router in communication with said plurality of routers (pg.2, claim 1, "a black hole router in communication with said plurality of core routers") , said black-hole router adapted to have a bogus IP address that is the same as said first IP address (pg.2,claim 1, " said black-hole router adapted to inject a second IP address....same IP address as the first IP address"),

said bogus IP address having a higher preference than said first IP address (pg.2, claim 1, "...a higher preference value than said first IP address") ;

wherein either one of said plurality of routers or said black-hole router is adapted to inject a black-hole route scheme into a dynamic routing protocol used by said ISP network such that selected ones of said plurality of routers route traffic to said bogus address of said black-hole router. (pg. 2, claim 1, "second IP address is injected a selected first number of edge routers direct VPN traffic addressed for said first IP address to said VPN application and a selected second number of edge routers direct VPN traffic addressed for said second IP address to said black-hole router")

As to **claims 2, 3, 8, 15**, they are rejected under the judicially created doctrine of the obvious double patenting for the same reasons as stated in the rejection of claim 1 above.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 1, 3, 5-8, 11-15, 17, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Talpade et al. (U.S. Patent Pub. No. 2004/0148520 A1) in view of Munger et al. (U.S. Patent No. 6, 618, 761 B2) in further view of "Official Notice"

As to **claim 1**, Talpade et al. discloses network comprising of: a plurality of edge routers (fig.2 , 226,228) a plurality of core routers (fig.2, 202,where core routers are parts of the ISP network, page 2, [0016]) adapted to allow communication between said plurality of edge routers; a VPN application (fig.2 , 232, analysis engine)in communication with a first one of said plurality of edge routers(, pg.2 , [0017], where the analysis engine is connected to the border router and edge router), said VPN application having a first IP address; and a discloses a black-hole router ("filter router" , fig.2 , 230) in communication with said core routers,

Talpade does not explicitly disclose the black-hole routers injecting a second IP address into the ISP VPN network and said second IP address comprising: the same address as the first IP address, a higher preference value than said first IP address and a community value such that when said second IP address is injected, a selected first number of edge routers direct VPN traffic addressed for said first IP address to said VPN application and a selected second number of edge routers direct VPN traffic addressed for said first IP address to said black-hole router

In an analogous art, Munger discloses a black-hole router (fig.2, 124-127, TARP router) in communication with said plurality of core routers, said black-hole router adapted to inject a second IP address(column 9, lines 36-45; the software in the router creates a packet that uses the IP header data from the original packet) into said ISP VPN network, said second IP address comprising:

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the same **IP** address as the first IP address (column 9, lines 36-45; the software in the router creates a packet that uses the IP header data from the original packet),

At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to modify Talpade by incorporating a TARP router that creates a packet with the same IP address and put into the network as disclosed by Munger. The rationale behind this modification is that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

However, Talpade-Munger does not explicitly disclose the system a higher preference value than said first IP address ; and

a community value such that when said second IP address is injected , a selected first number of edge routers direct VPN traffic addressed for said first IP address to said VPN application and a selected second number of edge routers direct VPN traffic addressed for said **second** IP address to said black-hole router.

But, the system that includes the routing information that includes a higher preference value than said first IP address ; and

a community value such that when said second IP address is injected , a selected first number of edge routers direct VPN traffic addressed for said first IP address to said VPN application and a selected second number of edge routers direct VPN traffic addressed for said **second** IP address to said black-hole router is well known in the art as a part of the BGP protocol used to route information between routers, therefore Official Notice is taken.

At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to modify Talpade-Munger to include the preference value and the community value that is part of the BGP protocol use a tracking router to inject a static route of the packets going to the victim while still allowing the victim to receive packets . The motivation behind this modification is to use the different parts of the BGP protocol to transmit data.

As to **claim 2**, Talpade-Munger as modified does not disclose a ISP system that is a Multiprotocol Label Switching Virtual Private Network (MLS VPN).

But the Multiprotocol Label Switching is a well known protocol that is known in the art, and therefore Official Notice is taken.

At the time of the invention, it would have been obvious to a person of ordinary skilled in the art to modify Talpade-Munger to use the Multiprotocol Label switching in a VPN network which is a similar to the network used in the network. The rationale behind this modification is that a particular known technique was recognized as part of the ordinary capabilities of one skilled in the art.

As to **claim 3**, Talpade-Munger does discloses the ISP network wherein said black-hole router (Munger, "TARP router") injects said second IP address in response to a Distributed Denial of Service (DDOS) attack on said VPN application. (Munger, column 12, lines 9-11; wherein upon detection of an attack, the TARP process may also create a subprocess that maintains the original IP address and continues interaction with the attacker)

As to **claim 4**, Talpade-Munger does discloses the ISP network wherein said community value(Official Notice; part of BGP protocol) can be changed in real-time by said black-hole router (Talpade, [0017]; upon receiving an indication of such an attack, the analysis engine in router configures one or more filter routers)

As to **claim 5**, Talpade-Munger does discloses the ISP network, wherein said ISP network utilizes dynamic routing protocols (Talpade, [0009]; "external border gateway protocol") in combination with community-based route filtering to propagate the injected second IP address to said edge routers. (Munger, column 12, lines 9-11; wherein upon detection of an attack, the TARP process may also create a subprocess that maintains the original IP address and continues interaction with the attacker)

As to **claim 6**, Talpade- Munger discloses the ISP network, wherein said second number of edge routers directs VPN traffic, addressed for said first IP address, to said black hole router(filter router), said black hole router is adapted to receive such traffic as black-holed-traffic (DDoS traffic)(Talpade, [0032]), said black-hole router adapted to analyze said black-holed traffic in order to determine a ratio of attack traffic to legitimate traffic.(Talpade, [0033], where filter router examines traffic and removes the DDoS traffic after checking to see if it is legitimate traffic.)

As to **claim 7**, Talpade-Munger discloses the ISP network where the network comprises of at least one route reflector ("traffic filter" which is a part of the "filter router") each one of said route reflectors being connected to a different set of edge routers from said plurality of edge routers, said route reflectors being adapted to update said edge routers with route instructions, such route instructions including said injected second address. (Talpade et al., [0017], "filter router" advertises this updated routing information to each border router and edge router)

As to **claims 8 and 11**, these are methods corresponding to the method in claim 1. Therefore it has been analyzed and rejected based upon system in claim 1.

As to **claim 10**, this is a method corresponding to the method in claim 2. Therefore it has been analyzed and rejected based upon system in claim 2.

As to **claim 12**, Talpade.-Munger discloses the method wherein said injected instruction (routing information) is a Border Gateway Protocol (BGP) routing instruction. (Talpade et al, [0037])

As to **claim 13**, this is a method corresponding to system in claim 6. Therefore it has been analyzed and rejected based upon system in claim 6.

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As to **claim 14**, this is a method corresponding to system in claim 7. Therefore it has been analyzed and rejected based upon system in claim 7.

As to **claims 15**, this is a method corresponding to the method in claim 1. Therefore it has been analyzed and rejected based upon system in claim 1.

As to **claim 16**, this is a method corresponding to the method in claim 2. Therefore it has been analyzed and rejected based upon system in claim 2.

As to **claim 17**, this is a method corresponding to system in claim 6. Therefore it has been analyzed and rejected based upon system in claim 6.

As to **claim 18**, this is a method corresponding to system in claim 4. Therefore it has been analyzed and rejected based upon system in claim 4.

As to **claim 19**, this is a method corresponding to system in claim 7. Therefore it has been analyzed and rejected based upon system in claim 7.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOE CHACKO whose telephone number is (571)270-3318. The examiner can normally be reached on Monday-Friday 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. C./

Examiner, Art Unit 2456

/Bunjob Jaroenchonwanit/

Supervisory Patent Examiner, Art Unit 2456